

IN THE CLAIMS

Upon entry of the present amendment, the status of the claims will be as is shown below. This listing of claims replaces all previous versions and listings of claims in the present application.

1-14 (Canceled)

15. (Currently Amended) A ~~The signal point mapping circuit according to claim 14,~~ for mapping a QPSK modulation signal in a phase space, comprising:

a sign inversion circuit that performs a sign inversion of the QPSK modulation signal to a phase offset of a multiple of 90°;

an amplitude adjustment circuit that adjusts the amplitude of the signal output from the sign inversion circuit and outputs a phase offset signal; and

a phase offset circuit that performs a phase offset calculation smaller than 90° with the phase offset signal output from the amplitude adjustment circuit, said phase offset circuit comprising[[::]] a fixed phase offset circuit that provides a predetermined amount of a fixed phase offset,

wherein said phase offset circuit decides whether to provide the phase offset to an input signal with the fixed phase offset circuit, and

wherein said phase offset circuit controls a total phase offset amount with the phase offset implemented by the sign inversion circuit to become a desired offset amount.

16-20 (Cancelled))